Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
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The Technological Advisory Council Inquiry into Reforming Technical Regulations	)	ET Dkt. No. 17-215
	)	
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COMMENTS OF ECHOSTAR SATELLITE OPERATING CORPORATION AND HUGHES NETWORK SYSTEMS, LLC

I. INTRODUCTION

EchoStar Satellite Operating Corporation ("ESOC") and Hughes Network Systems, LLC ("Hughes") (together with their affiliates, "EchoStar") submit these comments in response to the Commission's Technological Advisory Council ("TAC") public inquiry into reforming FCC technical regulations and the regulatory process by which such regulations are developed.[1]

To help identify FCC technical rules that are obsolete or ripe for change, the TAC has initiated a public inquiry to collect feedback from communications technology users and purveyors affected by such technical rules.[2] Specifically, the TAC inquiry seeks comments and responses to questions on: (i) particular FCC technical regulations that should be eliminated, revised, or retained; and (ii) how to improve the efficiency and timeliness of the regulatory process for developing such technical regulations.[3] As both a technology user and manufacturer,

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[1] *See Office of Engineering and Technology Announces Technological Advisory Council (TAC) Technical Inquiry into Reforming Technical Regulations,* Public Notice, 32 FCC Rcd 6672 (2017) ("*TAC Public Notice*").

[2] *See id.*

[3] *See id.*

as well as a network operator and service provider affected by numerous FCC technical rules, EchoStar strongly supports any Commission/TAC efforts to identify such technical rules that should be considered for elimination or revision to reduce costs and administrative burdens and increase operational and spectrum efficiencies. Accordingly, EchoStar submits these comments to provide input on the questions raised in the TAC inquiry, specifically with respect to outdated, burdensome, and other technical rules that negatively impact satellite service providers and consumers.

II. ECHOSTAR'S SATELLITE OPERATIONS AND SUBSCRIBERS ARE IMPACTED BY FCC TECHNICAL RULES, THUS WARRANTING PROMPT COMMISSION REVIEW OF SUCH RULES

Through ESOC's and Hughes' collective fleet of predominantly U.S.-authorized satellites and largely U.S.-based ground network facilities, EchoStar is the largest U.S. – and fourth largest worldwide – commercial geostationary satellite orbit ("GSO") operator, providing broadband, video, and other services to meet the needs of small and large customers, including media and broadcast organizations, direct-to-home providers, enterprise customers, government service providers, and residential consumers in the United States and abroad.[4] Additionally, EchoStar (through Hughes) is the largest provider of satellite broadband services in the United States and globally, with more than one million subscribers in North America. EchoStar recently brought into service the highest capacity broadband satellite in the world – the EchoStar XIX (a/k/a JUPITER 2) satellite – with its new HughesNet Gen5 satellite Internet service delivering faster speeds, more data, and built-in Wi-Fi for consumers and small businesses across the continental

[4] *See* EchoStar, *Satellite Fleet*, http://www.echostarsatelliteservices.com/SatelliteFleet/Fleet.aspx (last visited Oct. 30, 2017).

U.S. and key areas within Alaska.[5] EchoStar also continues to seek U.S. licenses to launch and operate new satellites, such as its next-generation satellite, HNS 95W, planned for launch in early 2021 to provide state-of-the-art satellite broadband services to consumers across the United States.[6]

Moreover, as a global leader in providing broadband satellite networks and services for enterprises, governments, small businesses, and consumers, EchoStar (through Hughes) continues to develop innovative equipment for the world's communications market. For example, Hughes pioneered the development of very small aperture terminals ("VSATs") and today remains the world's leading provider of enterprise VSAT services.[7] Hughes also designs and develops a wide range of mobile satellite and broadband equipment, such as (i) the Hughes 9211-HDR, a broadband global area network terminal providing mobile satellite connectivity for first responders, mobile healthcare, and public safety operations under the harshest conditions; and (ii) the HR4700 Branch Gateway, a broadband device providing enterprise-grade security, routing, broadband optimization technology, and many other services.[8]

Given its long history as an FCC-licensed and regulated provider of broadband and other communications services and products to U.S. and global consumers, EchoStar strongly supports

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[5] In June 2017, just four months after the debut of the HughesNet Gen5 satellite Internet service, Hughes was already serving more than 200,000 homes and small businesses, including both new subscribers and upgrades, and subscribership continues to grow substantially. Subscribers in every continental U.S. state have been connected to the service. *See EchoStar Corporation Q2 Earnings Call* (Aug. 9, 2017)..

[6] *See* Hughes Network Systems, LLC Application for Satellite Space Station Authorizations, IBFS File No. SAT-LOA-20170621-00092.

[7] *See* HughesNet, https://www.hughesnet.com/why-hughesnet/news/comsys-report-confirms-hughesleading-provider-vsat-industry (last visited Oct. 30, 2017); Hughes, *VSAT System Solutions*, http://www.hughes.com/technologies/satellite-systems/vsat-system (last visited Oct. 30, 2017).

[8] *See* News Release, Hughes, *Hughes Announces 9211-HDR Portable BGAN Terminal for Inmarsat's High Data Rate Service* (Oct. 30, 2017), http://www.hughes.com/resources/hughes-announces-9211-hdr-portable-bgan-terminal-for-inmarsats-high-data-rate-service; Hughes, *HR4700 Branch Gateway*, https://www.hughes.com/technologies/multi-branch-technologies/hr4700-gateway (last visited Oct. 30, 2017).

the TAC inquiry into reforming FCC technical rules, particularly eliminating or revising outdated, burdensome, and other technical rules that negatively impact satellite service providers and consumers. EchoStar further urges the Commission to consider eliminating or revising its technical rules, as proposed below and in the attached Appendix A (Proposed FCC Rule Revisions).

II. THE COMMISSION SHOULD APPLY ESTABLISHED GENERAL PRINCIPLES IN IDENTIFYING SPECIFIC TECHNICAL RULES FOR ELIMINATION OR REVISION

In identifying specific technical rules that should be eliminated or revised, the Commission should apply the following established set of general principles to guide its assessment:

(i) *International Harmonization*. As the FCC has recognized, "harmonization with international requirements will benefit consumers by promoting a global marketplace and enhancing the international competitiveness of U.S. manufacturers."[9] Accordingly, the Commission traditionally has determined to achieve "efficient international harmonization of spectrum allocations … and technical standards."[10]

(ii) *Operational Flexibility*. As the FCC has found, it is critical for service providers to innovate, respond quickly to customer demands, and operate in a flexible manner.[11]

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[9] *See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services,* Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, ¶ 130 (2016).

[10] *See Inquiry Concerning the Deployment of Advanced Telecommunications Capabiity to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996,* Report, 14 FCC Rcd 2398, ¶ 107 (1999).

[11] *See Amendment of the Commission's Rules Concerning Maritime Communications*, Fourth Report and Order and Third Further Notice of Proposed Rulemaking, 15 FCC Rcd 22585, ¶ 23 (2000) ("Affording AMTS licensees operational flexibility will enhance their ability to meet customer requirements and demand, and promote regulatory parity among maritime CMRS providers and between maritime CMRS providers and other CMRS providers."); *Amendment of the Commission's Rules To Permit Flexible Service Offerings in the Commercial Mobile Radio Services*, First Report and Order and Further Notice of

Accordingly, the Commission's review of its technical rules should take into account the extent to which the rule limits the flexibility required for satellite operators to respond to market and consumer demands without unnecessary regulatory barriers.[12]

(iii) *Regulatory Certainty*. To spur innovation and investment, it is critical that the FCC's technical rules are clear and certain. This is especially important for satellite deployments, which typically have a long lead time.[13] Failure to ultimately provide this certainty will result in hesitation by the industry to move forward with new services and technologies at a time when private investment is needed.[14]

Proposed Rulemaking, 11 FCC Rcd 8965, ¶ 22 (1996) ("Allowing service providers to offer all types of fixed, mobile, and hybrid services in response to market demand will allow for more flexible responses to consumer demand, a greater diversity of services and combinations of services, and increased competition.").

[12] *See Service Rules for Advanced Wireless Services in 2000-2020 and 2180-2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102, ¶ 224 (2012) ("*AWS Report and Order*") ("[W]e expect that flexibility will allow any licensee of AWS-4 authority to respond to consumer demand.").

[13] For instance, the ITU rules are set up to take that long lead time into account by giving seven years from the date of the API submission to bring a satellite network into use. The National Space Policy of the United States of America ("National Space Policy") also recognizes that the space industry needs to look far into the future by requiring NASA to set far reaching goals for space exploration into 2025 and beyond. *See* National Space Policy of the United States of America at 11 (June 28, 2010).

[14] The National Space Policy also requires that the government minimize, as much as possible, the regulatory burden for commercial space activities to ensure a regulatory environment for licensing space activities is timely and responsive, and encouraging investment in the satellite industry and the space industry in general remains critical. *See generally* National Space Policy. Also, as the U.S. takes into account its budgetary concerns, the private sector is left to fill the gap and ensure that the U.S. maintains its role as a leading innovator. *See* NASA Office of Inspector General, *2014 Report on NASA's Top Management and Performance Challenges*, at 1-3 (Nov. 14, 2014), http://oig.nasa.gov/NASA2014ManagementChallenges.pdf (discussing challenges in funding projects). Significantly, the U.S. space industry has demonstrated a willingness to do so and invest resources to further advance the industry. *See, e.g.*, SpaceX, http://www.spacex.-com/about (last visited Dec. 9, 2014). Accordingly, the FCC needs to foster an environment where this private investment continues to happen.

III. THE COMMISSION SHOULD CONSIDER ELIMINATING OR REVISING TECHNICAL RULES THAT ARE OUTDATED, BURDENSOME, OR NO LONGER REQUIRED IN THE PUBLIC INTEREST

As the TAC has indicated,[15] the Commission should consider eliminating or revising technical regulations that are outdated, burdensome, or otherwise no longer required in the public interest. At a minimum, such regulations should include the following Part 2 allocation rules and Part 25 technical rules, all of which are contrary to one or more of the established general principles discussed in Section II above and thus no longer required in the public interest.

(1) 47 C.F.R. §§ 2.105 (United States Table of Frequency Allocations), 2.106 (Table of Frequency Allocations), and 25.202 (Frequencies, frequency tolerance and emission limitations), and related Part 25 technical rules (e.g., 47 C.F.R. § 25.146(a)). The Commission should revise Section 2.106's U.S. table of allocations for satellite services, as well as any related Part 25 technical rules, to be more consistent with international allocations under ITU rules. Such revisions would promote international harmonization of spectrum allocations, facilitate international coordination of satellite operations, and provide greater regulatory certainty for U.S.- and non-U.S.-licensed satellite operators with respect to their international coordination rights and obligations.

For example, the Commission should revise the U.S. table of allocations to allocate the 18.8-19.3 GHz and 28.6-29.1 GHz bands for GSO fixed satellite service ("FSS") on a co-primary basis with non-geostationary satellite orbit ("NGSO") FSS, consistent with international allocations. As a result of this proposed change, the Commission also should consider revising related Part 25 technical rules, such as Section 25.146(a), to require coordination between co-primary NGSO FSS and GSO FSS systems in the 18.8-19.3 GHz and 28.6-29.1 GHz bands.

[15] *See TAC Public Notice*, 32 FCC Rcd at 6672.

Alternatively, the Commission may consider revising Sections 2.105 and 25.202 to add a general statement of presumption that domestic allocations should be consistent, to the extent possible, with international allocations for satellite services, absent substantial evidence that any differences would better serve the public interest.

(2) 47 C.F.R. § 25.210(j) (Technical requirements for space stations). The Commission, to the extent possible, should revise its Part 25 rules to conform to less stringent ITU technical requirements. Doing so would promote international harmonization of regulatory requirements, enhance operational flexibility for satellite operators, and ensure regulatory parity between U.S.- and non-U.S.-licensed satellite operators.

For example, Section 25.210(j) requires GSO satellites to be maintained within 0.05° of their assigned orbital longitude in the east-west direction. This FCC requirement parallels, but is more stringent than the 0.1° east-west station-keeping requirement under ITU rules,[16] though the basis for maintaining the more stringent requirement seems unclear.[17] Accordingly, given the substantial public interest benefits of internationally harmonized regulatory requirements, the Commission should revise Section 25.210(j) to conform to the ITU's less stringent 0.1° east-west station-keeping requirement.

IV. CONCLUSION

Based upon the foregoing, EchoStar supports the TAC inquiry into reforming FCC technical rules, and urges the Commission to initiate a prompt and thorough review of such rules, including outdated, burdensome, and other technical rules that negatively impact satellite service providers and consumers. In conducting its review, the Commission should determine that

[16] *See* ITU Radio Regulations, § 22.8.

[17] *See, e.g., Mitigation of Orbital Debris,* Second Report and Order, 19 FCC Rcd 11567, ¶¶ 42-44 (2004).

certain technical and allocation requirements under its Part 2 and Part 25 rules are obsolete, burdensome, or no longer in the public interest. Consequently, the Commission should eliminate or revise those rules to permit internationally harmonized spectrum and standards, enhanced operational flexibility, and greater regulatory certainty.

Respectfully submitted,

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